



2017 Stream Survey Report WAUPACA RIVER TREND SITE

(WBIC 257400)

Waupaca County

Prepared by Joe Dax

Introduction and Survey Objectives

The Waupaca River is a Class II trout stream, consisting of 64.90 miles of trout water. Located in both Waupaca and Portage Counties, the stream name changes to the Tomorrow River when it crosses into Portage County. The Waupaca River is managed for trophy-sized trout as well as a put and take fishing area located in the City of Waupaca. Several public fishing accesses are located throughout the length of the river including road crossings and DNR managed property. This trend site is part of the trophy management area, has had past habitat development work done and feral trout are stocked on a fairly regular basis to supplement natural reproduction. Objectives of the trend survey are to monitor relative abundance and size structure.

Regulations Category: **Red:** (Durant Rd. to River Dr.) Size Limit: Brown Trout-18 inches Daily Bag Limit: 1 (in total)
Gear Restriction: Only artificial lures may be used.
Yellow: (All except portion listed) Size Limit: All Trout-8 inches Daily Bag Limit: 3 (in total)

WISCONSIN DNR CONTACT INFO.

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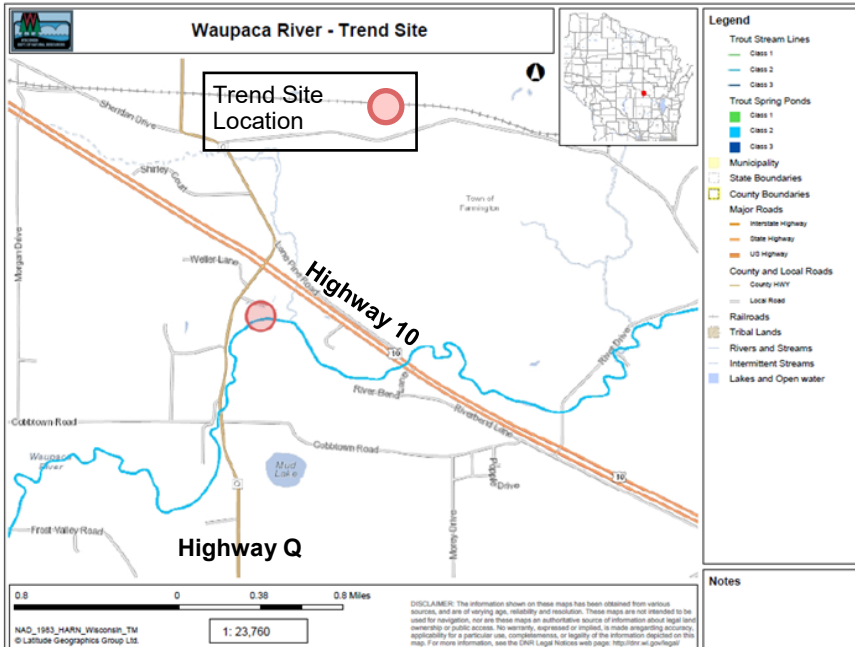
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Survey Information

Site location	Survey Date	Station Length	Water Temperature (°F)	GPS (Start/Finish)	Gear	Number of Netters
HWY Q Trend Site	09/07/2017	4,000 ft.	54	44.3806, -89.1785 44.3740, -89.1852	2 Towed Barge Shockers	6



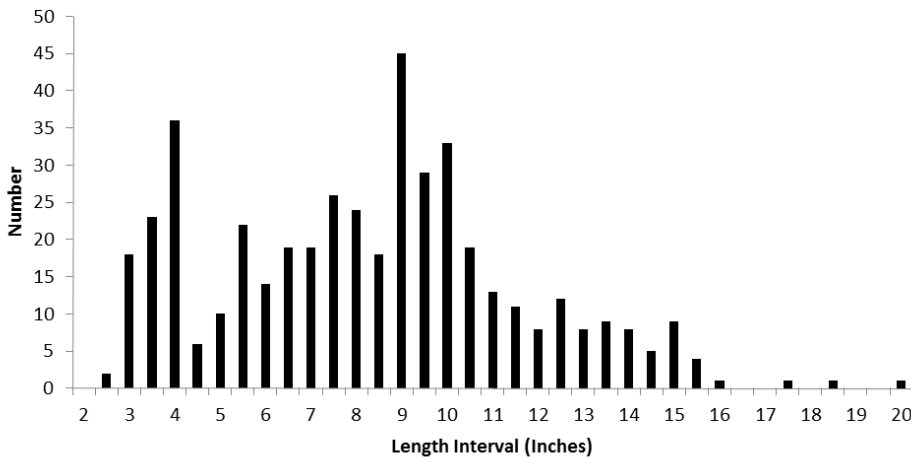
Survey Method

- The Waupaca River trend site has been surveyed annually since 1994. The trend site was originally 3,900 feet but was increased to 4,000 feet in 2009. Given how wide the river is, this particular site is electrofished with two towed barge streamshockers. All captured trout are identified to species, measured for length, and examined for fin-clips.
- Metrics used to evaluate fish populations include catch per unit effort by size class and length frequency distributions.



Metric Descriptions

- Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all trout surveys, we typically quantify CPUE as the number of a given size class of trout captured per mile of stream. CPUE indexes are compared to other trout streams throughout the state of Wisconsin by what percentile (PCTL) they fall out in. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state. CPUE percentiles can also be used to categorize trout abundance as low density (<33rd percentile), moderate density (33rd - 66th percentile), high density (66th - 90th percentile), and very high density (> 90th percentile).
- Length frequency distribution** is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals.

**Brown Trout Length Distribution, N = 454****Size and Abundance (CPUE) Metrics - Brown Trout**

Year	Average Length (Inches)	Length Range (Inches)	Number Sampled	CPE calculated as the number of trout of a given size per mile (Number in parentheses represents the statewide percentile of a given metric)						
				Total CPUE (PCTL)	YOY CPUE	≥6" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)	≥15" CPUE (PCTL)
1994	7.2	(3.2-14.2)	347	470	168	254	188	78	20	0
1995	8.5	(3.2-15.6)	256	346	60	275	206	127	28	4
1996	8.0	(3.0-17.6)	252	341	138	203	176	92	56	9
1997	7.3	(2.7-17.6)	204	276	118	156	112	112	31	14
1998	8.6	(2.6-19.6)	217	294	27	242	156	78	39	14
1999	9.1	(2.1-19.9)	272	368	57	299	219	154	86	12
2000	8.7	(2.2-20.9)	390	528	125	378	272	214	125	23
2001	7.3	(2.4-21.0)	354	478	149	274	143	98	77	28
2002	8.9	(2.8-18.2)	273	369	42	302	191	134	60	27
2006	9.6	(2.7-19.2)	299	405 (70th)	18	353 (80th)	288 (85th)	165 (85th)	78 (90th)	30 (95th)
2007	8.8	(2.6-19.6)	251	340 (65th)	27	258 (75th)	181 (75th)	138 (80th)	67 (85th)	16 (90th)
2008	8.2	(2.3-20.2)	375	507 (75th)	70	332 (80th)	227 (80th)	162 (85th)	108 (90th)	27 (95th)
2009	6.1	(2.0-19.8)	642	847 (85th)	381	350 (80th)	174 (70th)	125 (75th)	88 (85th)	34 (95th)
2010	6.8	(2.1-18.5)	310	419 (70th)	133	204 (70th)	108 (65th)	88 (75th)	58 (85th)	23 (95th)
2011	6.8	(2.2-20.5)	222	426 (70th)	207	186 (65th)	121 (65th)	140 (80th)	63 (85th)	29 (95th)
2012	8.5	(1.1-20.9)	319	421 (70th)	34	290 (75th)	216 (80th)	140 (80th)	73 (90th)	22 (90th)
2013	9.0	(2.2-21.3)	330	435 (70th)	69	340 (80th)	248 (80th)	161 (85th)	107 (95th)	26 (95th)
2014	7.0	(2.9-20.4)	413	545 (75th)	214	257 (75th)	145 (70th)	121 (80th)	91 (90th)	29 (95th)
2015	5.5	(2.1-18.5)	264	348 (65th)	183	153 (60th)	42 (45th)	16 (40th)	12 (50th)	12 (85th)
2016	7.5	(3.2-19.6)	244	322 (65th)	13	222 (70th)	108 (65th)	75 (70th)	24 (65th)	8 (75th)
2017	8.5	(2.7-20.0)	454	599 (75th)	104	445 (80th)	342 (85th)	189 (85th)	88 (90th)	17 (90th)

Summary

- Results from the 2017 survey showed that total brown trout numbers have increased following the observed declines in 2015 and 2016. Overall densities continue to be high, ranking in the 75th percentile when compared to streams throughout the state of Wisconsin.
- Additionally, densities of all adults size classes (i.e., ≥6 inches) were higher in 2017 than in either of the previous two years. The densities of brown trout ≥6, ≥8, and ≥10 inches in 2017 were some of the highest ever observed for the trend site. Two strong year classes in 2014 and 2015 are likely driving the high numbers of adults observed. Given the special regulation and the high density of brown trout between 6-12 inches, the density of brown trout >15.0 inches should increase in the next couple of years, returning to more historical levels and providing an extremely nice trophy brown trout fishery.
- A moderate density of young of year (YOY) brown trout were captured in 2017, 104 per mile, when compared to historical numbers from past years surveys. No feral fingerling brown trout were stocked in 2017, meaning all YOY captured were naturally reproduced. Historically, feral brown trout have been stocked and results from past surveys have shown that stocking has accounted for as much as 30% of the adult population. However in recent years we suspect this percentage has declined. We will likely begin fin clipping future stocked feral fingerlings to again evaluate contributions of stocked fish. If brown trout can continue to pull off year classes similar to what was observed in 2017 through natural reproduction, stocking may not be necessary in the future.
- Over the last couple of years, the Wild Rose habitat crew has been working to repair some of the skyhook overhead covers that were installed throughout the trend site, replacing them with more traditional lunger structures. This work should be completed in 2018, with the habitat crew fixing the last two.